

**UNCLASSIFIED**  
**FY 2000 President's Budget Estimates**  
**EXHIBIT R-2, RDT&E,N Budget Item Justification**

**DATE: February 1999**

**BUDGET ACTIVITY: 7**      **PROGRAM ELEMENT: 0303109N**  
**PROGRAM ELEMENT TITLE: Satellite Communications**

(U) Cost (\$ in Thousands)	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total PE Cost	18,062	17,523	38,921	12,946	11,819	15,824	7,978	8,158	CONT.	CONT.
X0728 EHF SATCOM Terminals	14,789	15,523	8,491	7,415	6,686	7,803	7,978	8,158	CONT.	CONT.
X0731 Fleet Satellite Communications	3,273	2,000	2,829	1,514	1,025	0	0	0	CONT.	CONT.
P2472 Mobile User Segment	0	0	27,601	4,017	4,108	8,021	0	0	0	43,747

**A. Mission Description and Budget Item Justification:**

(U) **MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:** The Navy Extremely High Frequency (EHF) Satellite Communications (SATCOM) Program (NESP) provides for the development and production of terminals to provide anti-jam, low probability of intercept/detection communications capability for Command and Control of the fleet. NESP operates with FLTSAT EHF packages and UFO EHF Satellite packages and is the Navy's portion of Milstar. The Milstar program is comprised of satellites, control stations, and aircraft, ship, and ground terminals to provide assured worldwide, secure, anti-jam, survivable communications for the National Command Authority, CINCs, and operational commanders.

(U) Fleet Satellite Communications includes Sensitive Compartmented Information (SCI) Automated Digital Network System (ADNS)/Tactical Intelligence Information Exchange Subsystem II Plus (TACINTEL II+) which provides real time indications and warning support and enhanced SCI interoperability with other services, agencies, and allies permitting a level of integration not available with current systems.

U) The Mobile User Segment program develops the next generation DoD narrowband communications satellite constellation. The current UHF Follow-On (UFO) constellation is expected to degrade below acceptable availability parameters and will require replacement by FY07. In addition, new user requirements have been identified and validated as improvements in warfighter tactics, and strategies have been modified to incorporate new concepts and technologies. The joint Mobile User Objective System (MUOS) Integrated Product Team (IPT) has developed an acquisition strategy based on the exponential growth of narrowband communications demands, which has resulted in identifying the need to explore new approaches to acquiring satellite based communications capabilities. This program builds on state of the art technologies and commercial practices to develop a totally responsive joint warfighter system.

(U) An eleventh UFO satellite is being procured as a gapfiller to maintain the current UFO constellation until the MUOS can be put in place. The UFO receiver used on all previous UFOs is obsolete and no longer available. The contractor will develop and test a replacement UHF receiver for the UFO gapfiller satellite.

(U) **JUSTIFICATION FOR BUDGET ACTIVITY:** This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational system.

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**PROGRAM ELEMENT: 0303109N**  
**PROGRAM ELEMENT TITLE: Satellite Communications**

**PROJECT NUMBER: X0728**  
**PROJECT TITLE: EHF SATCOM Terminals**

Cost (\$ in Thousands)	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
X0728 EHF SATCOM Terminals Quantity of RDT&E Articles & cost	14,789	15,523	8,491	7,415	6,686	7,803	7,978	8,158	CONT.	CONT.

**A. Mission Description and Budget Item Justification:**

(U) Navy Extremely High Frequency (EHF) Satellite Communications (SATCOM) Program provides for the development and production of terminals to provide anti-jam, low probability of intercept/detection communications capability for Command and Control of the fleet. The terminals will provide physical and electromagnetically survivable, worldwide communications in the current and projected electromagnetic and nuclear threat environments. Navy EHF terminals are interoperable with Army and Air Force terminals and will operate with Milstar as well as EHF packages on-board Ultra High Frequency (UHF) Follow-On (UFO) Satellites 4 through 10 and FLTSATCOM Satellites 7 and 8. The increased capability provided by EHF terminals is accomplished by use of the wider bandwidths available at extremely high frequencies, narrow antenna beamwidths, spread spectrum techniques, on-board satellite processing, and advanced signal processing technology.

(U) A Medium Data Rate (MDR) capability is currently under development to utilize the capabilities on Milstar satellites DFS-3 through DFS-6. MDR will provide the only protected (jam resistant and low probability of intercept/detection) MDR data rates from 4.8 kilobits per second (Kbps) to 1.544 megabits per second (Mbps) to the majority of the fleet.

(U) The Navy EHF Communications Controller (NECC) provides automated, netted tactical data Information Exchange Subsystems (IXS) over jam resistant EHF satellite links. The NECC will provide for load and channel sharing, resource management, communications management and planning, network control and monitoring, and services including circuit switching, packet switching, and backward compatibility to UHF SATCOM.

**(U) PROGRAM ACCOMPLISHMENTS AND PLANS:**

**1. (U) FY 1998 ACCOMPLISHMENTS:**

- (U) (\$ 8,462) Delivered additional EDM MDR modem and modification kits; continue MDR ILS development; complete MDR software development; continue MDR SATSIM development; and perform system integration testing to meet MST testing schedule.
- (U) (\$ 1,504) Performed developmental and interoperability testing (MST-6000) with Navy MDR terminal, Army MDR terminal, and the on-ground flight model Milstar MDR satellite to verify compatibility prior to launch of first Milstar satellite in FY 99.
- (U) (\$ 1,031) Continued development of NECC interface with MDR.

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**PROGRAM ELEMENT TITLE: Satellite Communications**

**PROJECT NUMBER: X0728**

**PROJECT TITLE: EHF SATCOM Terminals**

- (U) (\$ 1,039) Commenced development of Submarine Reportback Compression/Encryption capability to provide transmit and receive message processing for reportback messages to support tactical brevity coding, reportback message compression, and KGV-11 time of day encryption.
- (U) (\$ 294) Developed and updated Naval Command, Control, Communications, Computers, Intelligence, Sensors and Reconnaissance (C4ISR) implementation guidance.
- (U) (\$ 2,459) Continued Milstar terminal and MDR development engineering analysis and management.

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**Exhibit R-2a, RDT&E,N Project Justification (X0728)**

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**BUDGET ACTIVITY: 7**

**PROGRAM ELEMENT: 0303109N**  
**PROGRAM ELEMENT TITLE: Satellite Communications**

**PROJECT NUMBER: X0728**  
**PROJECT TITLE: EHF SATCOM Terminals**

**2. (U) FY 1999 PLAN:**

- (U) (\$ 6,504) Perform MDR software corrections resulting from MST-6000 testing with flight model MDR satellite. Continue MDR ILS development; prepare MDR software documentation; perform software configuration management; perform system testing; support installation, checkout, and integration of EDM antenna/pedestals on operational platforms, EDM MDR modems, and field change kits in support of MST testing; and complete MDR SATSIM development and modifications.
- (U) (\$ 600) Perform ship and shore integration for MDR upgrade.
- (U) (\$ 1,600) Perform MST-8000 development testing with initial AN/USC-38(V) with MDR, Army MDR terminal, and on-orbit Milstar satellite with MDR to verify compatibility.
- (U) (\$ 2,809) Perform TECHEVALs/OPEVALs for Navy MDR and participate in Milstar MDR IOT&E.
- (U) (\$ 1,500) Continue development of NECC modifications. Conduct developmental and operational testing of MDR capable NECC units.
- (U) (\$ 1,500) Develop modifications required to maintain compatibility with future EHF satellite constellations (i.e., Advanced EHF). Investigate antenna technology advancements including phased array and flat plate antennas. Begin investigation of Radar Cross Section (RCS) vulnerability reduction measures.
- (U) (\$ 1,010) Continue Milstar terminal and MDR development engineering analysis and management.

**3. (U) FY 2000 PLAN:**

- (U) (\$ 2,408) Complete MDR Satellite Simulator (SATSIM) development and support EDM MDR modems.
- (U) (\$ 1,062) Continue testing for Navy MDR and participate in Milstar MDR IOT&E for multiple MDR constellations.
- (U) (\$ 1,610) Continue development of TIP/NECC modifications.
- (U) (\$ 2,400) Continue Advanced EHF system engineering analysis and specification generations.
- (U) (\$ 1,011) Continue Milstar terminal and MDR development engineering analysis and management.

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BUDGET ACTIVITY: 7

PROGRAM ELEMENT: 0303109N

PROJECT NUMBER: X0728

PROGRAM ELEMENT TITLE: Satellite Communications

PROJECT TITLE: EHF SATCOM Terminals

B. (U) PROGRAM CHANGE SUMMARY:

	1998	1999	2000
(U) FY 99 President's Budget	\$15,464	\$16,068	\$8,595
(U) Appropriated Value			
(U) Adjust. from FY 99 PRESBUDG	(\$675)	(\$545)	(\$104)
(U) FY 00 President's Budget Submit	\$14,789	\$15,523	\$8,491

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding:

FY 1998 reflects a \$1k FY1998 Update

FY 1998 Congressional undistributed general adjustment since the President's Budget.

FY 1999 reflects the following (\$-545K) issues: **64128:** Sec. 8108 Revised Economic Assumptions, **64231:** Civilian Personnel Underexecution, **64440:** Sec.8054 Contract Advisory and Assistance Service, **65606:** Sec.8034 FFRDC Distribution.

FY 2000 reflects the following (\$117K) issues: **66212:** PBD 606 Civilian Pay Rates, **66547:** PBD 604 Non Pay Inflation.

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

B. (U) OTHER PROGRAM FUNDING SUMMARY: (Dollars in Thousands)

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TO COMPLETE	TOTAL PROGRAM
OPN SHIP* 321000	39,579	56,910	89,900							
OPN SHORE*	2,195	14,793	32,215							

\*Includes EHF terminal installation costs.

(U) Related RDT&E:

(U) PE 0303603F, Milstar

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**PROGRAM ELEMENT: 0303109N**

**PROJECT NUMBER: X0728**

**PROGRAM ELEMENT TITLE: Satellite Communications**

**PROJECT TITLE: EHF SATCOM Terminals**

(U) PE 0303601F, Air Force Satellite Communications

(U) PE 0303142A, Army Extremely High Frequency Communications Terminal

**C. (U) ACQUISITION STRATEGY:**

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>
Program Milestones	N/A	MS IV (MDR Full Rate Prod) 6/99	Milstar II Launch (Flight 4) 1/00
Engineering Milestones	N/A	N/A	N/A
T&E Milestones	MDR MST6000 7/98	MDR MST8000 3/99 MDR OT 5/99	N/A
Contract Milestones	MDR Initial Prod Award 1/98	N/A	N/A

**D. SCHEDULE PROFILE: See paragraph C.**

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**EXHIBIT R-3, RDT&E,N Project Cost Analysis**

**DATE: February 1999**

**BUDGET ACTIVITY: 7**

**PROGRAM ELEMENT: 0303109N**

**PROJECT NUMBER: X0728**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total Pys Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Product Development												
Prime Mission Equipment	SS/CPFF	Raytheon Marlborough, MA	29,501	8,578	12/98	5,228	12/99			CONT	CONT	
Prime Mission Equipment	WR	SSC SD	10,194	2,594	11/98	493	11/99			CONT	CONT	
Prime Mission Equipment	Various	Other	4,641	938	12/98	99	12/99			CONT	CONT	
Subtotal Product Development			44,336	12,110		5820				CONT	CONT	
Remarks:												
Support Cost/Management Services												
	WR	SSC SD	5,532	840	12/98	446	12/99			CONT	CONT	
	WR	NUWC	4,712	417	12/98	365	12/99			CONT	CONT	
	Various	Other	3,676	325	12/98	309	12/99			CONT	CONT	
Subtotal Support			13,920	1,582		1,120				CONT	CONT	
Remarks:												

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**PROGRAM ELEMENT: 0303109N**

**PROJECT NUMBER: X0728**

Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation												
Test & Evaluation	Various	Various	3,566	1,831	12/98	1,551	12/99			CONT	CONT	
Subtotal T&E			3,566	1,831		1,551				CONT	CONT	
Remarks												
Management Services												
Subtotal Management												
Remarks												
Total Cost			61,822	15,523		8,491				CONT	CONT	
Remarks												

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**BUDGET ACTIVITY: 7**

**PROGRAM ELEMENT: 0303109N**

**PROJECT NUMBER: X0731**

Cost (\$ in Thousands)	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
X0731 Fleet Satellite Communications	3,273	2,000	2,829	1,514	1,025				CONT.	CONT.

**A. Mission Description and Budget Item Justification:**

(U) The Sensitive Compartmented Information (SCI) Automated Digital Network System (ADNS)/Tactical Intelligence Information Exchange Subsystem II Plus (TACINTEL II+) implements the Integrated Special Intelligence Communications portion of the Copernicus Joint Maritime Communications System (JMCOMS)/ADNS architecture, to provide services for transfer of Special Intelligence (SI) information between ships, aircraft, and shore activities in support of joint and combined operations. SCI ADNS/TACINTEL II+ will provide real time indications and warning support to joint and component commanders through reliable high speed transfer of sensor data and intelligence information. Enhanced interoperability with other services, agencies, and allies will permit a level of integration of SI operations not achievable with current systems. The Joint ultra high frequency (UHF) Military Satellite Communications Network Integrated Control System (JMINI) Control system will provide dynamic centralized control of joint 5-kHz and 25kHz UHF military satellite communications (MILSATCOM) voice and data resources (channels and Time Division Multiple Access (TDMA) time slots via a globally integrated system of four control stations to be located at each of the three Naval Computer and Telecommunications Area Master Station (NCTAMS) sites plus Naval Computer and Telecommunications Station (NCTS) Guam.

**(U) PROGRAM ACCOMPLISHMENTS AND PLANS:**

**1. (U) FY 1998 ACCOMPLISHMENTS:**

- (U) (\$2940) Implemented advanced SCI ADNS/TACINTEL II+ into ADNS. Begin design, implementation, system/software test documentation support on the Network Management Systems (NMS) to support the JMINI Control System.
- (U) (\$333) Developed and updated Naval Command, Control, Communications, Computers, Intelligence, Sensors and Reconnaissance (C4ISR) implementation guidance.

**2. (U) FY 1999 PLAN:**

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- (U) (\$ 2,000) Continue implementation of SCI ADNS/TACINTEL II+.

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**PROGRAM ELEMENT: 0303109N**

**PROJECT NUMBER: X0731**

3. (U) FY 2000 PLAN:

- (U) (\$ 2,829) Transition SCI ADNS/TACINTEL II+ functionality to Windows NT/IT 21 compliant architecture to include re-hosting to Cryptologic Workstation environment. Integrate and implement SCI ADNS Build II. Continue development of voice, data and video integration into SCI ADNS environment. Preparation for SCI Defense Messaging System integration. Developmental Testing (DT) and Follow on Operational Testing and Evaluation (FOT&E) of SCI ADNS/TACINTEL II+.

(U) CHANGE SUMMARY EXPLANATION:

(U) Funding:

FY98: Joint Staff decision- JWCA issue: N6 plus-up \$2,491K and FY 1998 Update -\$10K.

FY 99: Reflects a net -\$120K for issues: 64128, 64231, 64440

FY 00 Reflects a net +\$31K for issues: 66212, 66547

(U) Schedule: Not applicable.

(U) Technical: Not applicable.

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**PROGRAM ELEMENT: 0303109N**

**PROJECT NUMBER: X0731**

**B. (U) OTHER PROGRAM FUNDING SUMMARY: (Dollars in Thousands)**

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY2004	FY2005	TO COMPLETE	TOTAL PROGRAM
OPN SHIP* 321000	1972	2,649	4,892						CONT.	CONT.
OPN SHORE* 322000	1,261	626	493						CONT.	CONT.

\*Includes terminal installation costs.

(U) Related RDT&E: N/A

**C. (U) ACQUISITION STRATEGY:**

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>
Program Milestones	N/A	N/A	SCI ADNS 2 IOC 6/00
Engineering Milestones	N/A	N/A	SCI ADNS 2 PCA 3/00
T&E Milestones	SCI ADNS 1 DT 9/98	SCI ADNS 1 OT1 7/99	SCI ADNS DT 7/00 OT 9/00
Contract Milestones	N/A	N/A	N/A

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**PROGRAM ELEMENT: 0303109N**

**PROJECT NUMBER: X0731**

D. SCHEDULE PROFILE: See paragraph C.

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
1.1.1 Prime Mission Product	FPI	Titan	6,309	0		0		0		0	6,309	
1.1.1 Prime Mission Product	FFP	SRC	18,505	0		0		0		0	18,505	
1.1.1 Prime Mission Product	PD	NAVSUP/SR C	3,946	1,395	Dec 98	2,194	Dec 99			1,597	9,132	
1.1.1 Prime Mission Product	VAR	VAR	9,654	125	Dec 98	100	Dec 99			200	10,079	
Subtotal Product Development			38,414	1,520		2,294				1,797	44,025	
Remarks:												
1.1.1 Prime Mission Product	CPFF	CSC	3,588	0		0		0		0	3,588	
1.1.1 Prime Mission Product	PD	NAVAIR/ISC	1,176	0		0		0		0	1,176	
1.1.1 Prime Mission Product	VAR	VAR	9,343	0		0		0		0	9,343	
GFE												
Subtotal Support			14,107	0		0		0		0	14,107	
Remarks												

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**PROJECT NUMBER: X0731**

Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
1.2.5 System T&E	N/A	SSC SD	0	267	Dec 98	322	Dec 99		Dec 00	448	1,037	
1.2.5 System T&E	N/A	OPTEVFOR	0	80	Dec 98	80	Dec 99		Dec 00	160	320	
1.2.5 System T&E	VAR	VAR	9,296	0		0		0		0	9,296	
Subtotal T&E			9,296	347		402				608	10,653	
Remarks												
1.1.3 Program Management	CPFF	CSC	3,588								3,588	
1.1.3 Program Management	PD	NAVAIR/ISC	1,176								1,176	
1.1.3 Program Management	N/A	ACS	410	133	Dec 98	133	Dec 99		Dec 00	134	810	
1.1.3 Program Management	VAR	VAR	9,343								9,343	
Subtotal Management			14,517	133		133				134	14,917	
Remarks												
Total Cost			76,334	2,000		2,829				2,539	83,702	
Remarks												

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**PROGRAM ELEMENT: 0303109N**  
**PROGRAM ELEMENT TITLE: Satellite Communications**

**PROJECT NUMBER: P2472**  
**PROJECT TITLE: Mobile User Segment**

Cost (\$ in Thousands)

PROJECT NUMBER & TITLE	FY 1998 ACTUAL	FY 1999 ESTIMATE	FY 2000 ESTIMATE	FY 2001 ESTIMATE	FY 2002 ESTIMATE	FY 2003 ESTIMATE	FY 2004 ESTIMATE	FY 2005 ESTIMATE	TO COMPLETE	TOTAL PROGRAM
P2472 Mobile User Segment	0	0	27,601	4,017	4,108	8,021	0	0	0	43,747

**A. Mission Description and Budget Item Justification:**

(U) This program provides for: (1) the development of the digital receiver for the UHF Follow-On (UFO) F11 gapfiller satellite and (2) the development of the next generation DoD narrowband communications satellite constellation.

(U) The RDT&E effort for the UFO F11 gapfiller satellite is to develop and test a digital receiver to replace the obsolete analog receiver used on UFO F1-F10. The F11 is being procured to maintain the health of the UFO constellation until the Mobile User Objective System (MUOS) system can be put in place. The analog receiver used earlier is no longer available since the parts for the analog receiver were bought early in the UFO program.

(U) The current UFO constellation is expected to degrade below acceptable availability parameters and will require replacement by FY07. In addition, new user requirements have been identified and validated as improvements in warfighter tactics, and strategies have been modified to incorporate new concepts and technologies. The joint MUOS Integrated Product Team (IPT) has developed an acquisition strategy based on the exponential growth of narrowband communications demands, which has resulted in identifying the need to explore new approaches to acquiring satellite based communications capabilities. This program builds on state of the art technologies and commercial practices to develop a totally responsive joint warfighter system.

(U) This RDT&E effort supports the program objectives by assisting in identifying the cheapest, fastest, most effective way to field a new system by FY07. A draft over-arching communication satellite system Technical Requirements Document (TRD) has been developed by the MUOS IPT as the basic planning document. The TRD incorporates the latest understanding of the joint user needs and transposes these to high level technical performance requirements. From the TRD, in its final form, the prime system contractor will generate the SATCOM system specification from which will flow the technical development and production specifications. It is planned to use industry teams to conduct early evaluation of the TRD, and to identify risk management areas and candidate systems approaches.

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**PROGRAM ELEMENT: 0303109N**

**PROGRAM ELEMENT TITLE: Satellite Communications**

**PROJECT NUMBER: P2472**

**PROJECT TITLE: Mobile User Segment**

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. (U) FY98 ACCOMPLISHMENTS:

- (U) (\$0) N/A

2. (U) FY99 PLAN:

- (U) (\$0) N/A

3. (U) FY00 PLAN:

- (U) (\$4,000) Prepare a final draft TRD for government review and approval. Begin development of draft SATCOM System Specifications.
- (U) (\$23,601) Design and test a digital receiver for UFO F11 gapfiller.

B. (U) PROGRAM CHANGE SUMMARY:

(U) Funding: N/A This project starts in FY00.

(U) Schedule: N/A

(U) Technical: N/A

C. (U) OTHER PROGRAM FUNDING SUMMARY: (Dollars in Thousands)

NUMBER	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	TO	TOTAL
TITLE	<u>ACTUAL</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>ESTIMATE</u>	<u>COMPLETE</u>	<u>PROGRAM</u>
(U) WPN Line 243300										
Fleet Satellite Communication Follow-On										
	0	0	9,789	167,711	1,961	1,932	50,020	61,109	CONT.	CONT.

(U) RELATED RDT&E: None

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**Exhibit R-2a, RDT&E,N Project Justification (P2472)**



**UNCLASSIFIED**  
**FY 2000 President's Budget Estimates**  
**EXHIBIT R-2a, RDT&E,N Project Justification**

**DATE: February 1999**

**BUDGET ACTIVITY: 7**

**PROGRAM ELEMENT: 0303109N**  
**PROGRAM ELEMENT TITLE: Satellite Communications**

**PROJECT NUMBER: P2472**  
**PROJECT TITLE: Mobile User Segment**

**D. (U) SCHEDULE PROFILE:**

	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>
Program Milestones		4Q-PDM/AP	1Q-MS 0
Engineering Milestones			4Q-Final TRD 4Q-Draft Spec
T&E Milestones			
Contract Milestones			1Q-Multiple contracts Award

**UFO GAPFILLER**

Program Milestone		
Engineering Milestone		
T&E Milestone		
Contract Milestone		SS/FFP 1Q-Mod for F11

**R-1 Shopping List – Item No 176-17 of 176-18**  
**UNCLASSIFIED**

**Exhibit R-2a, RDT&E,N Project Justification (P2472)**

**UNCLASSIFIED**  
**FY 2000 President's Budget Estimates**  
**EXHIBIT R-3, RDT&E,N Project Cost Analysis**

**DATE: February 1999**

**BUDGET ACTIVITY: 7**

**PROGRAM ELEMENT: 0303109N**

**PROJECT NUMBER: P2472**

Exhibit R-3 Cost Analysis (page 1)									Date: January 1999			
APPROPRIATION: RDT&E,N BUDGET ACTIVITY : 7			PROGRAM ELEMENT: 0303109N						Mobile User Segment P2472			
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY99 Cost	FY99 Award Date	FY00 Cost	FY00 Award Date	FY01 Cost	FY01 Award Date	Cost To Complete	Total Cost	Target Value of Contract
MUS 2007 Specification Preparation	COM/FP	Various	0	0	N/A	4,000	Oct 99			16,146	20,146	20,146
UFO Gapfiller – Digital Receiver	SS/FP	Hughes, El Segundo	0	0	N/A	21,701	Oct 99			0	21,701	22,100
Subtotal Product Development			0	0		25,701				16,146	41,847	41,847
Remarks:												
Support Cost												
Program Support	Var	Program Support	0	0	N/A	1,900	Oct 99				1,900	1,900
Subtotal Support Cost			0	0		1,900				0	1,900	1,900
Remarks:												
Total Cost			0	0		27,601				16,146	43,747	43,747

**R-1 Shopping List – Item No 176-18 of 176-18**  
**UNCLASSIFIED**

**Exhibit R-3, RDT&E,N Project Cost Analysis**